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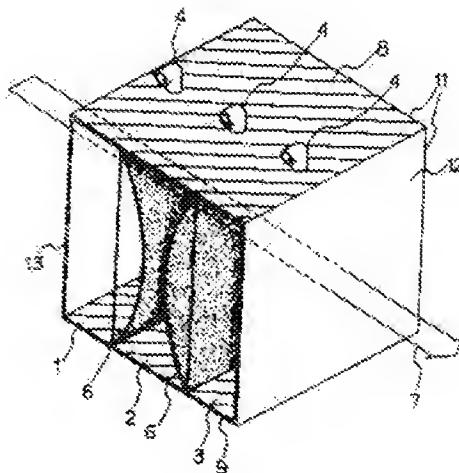
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TITLE : LENS OF VARIABLE FOCAL LENGTH
AND IRRADIATION FIELD



ABSTRACT : PURPOSE: To obtain a lens of varying focal lengths and irradiation fields by filling chambers partitioned by an elastic film with fluid and changing the pressure and refractive index of the fluid.

CONSTITUTION: A box having a top surface 8, bottom surface 9, right side face 12, left side face 13 and rear surface 11 is partitioned by the transparent elastic film 6 to form the 1st, 2nd, 3rd chambers 1, 2, 3. A transport pipe 4 for the fluid is provided to each chamber. An optical path to allow the passage of light only in the directions of the faces 12, 13 is constituted. The fluid is injected into and discharged from the pipes 4 into the chambers 1, 2, 3. A concave lens is formed in the 2nd chamber when the inside pressures of the 1st and 3rd chambers 1, 3 are increased. A convex lens is formed in the 2nd chamber when the inside pressures in the 1st and 3rd chambers are conversely decreased. The focal length and irradiation field are continuously changed when the inside pressures and refractive indices of the chambers 1, 2, 3 are changed. The concave and convex lenses are thereby made with a piece of the lens.

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